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ABSTRACT

Prestel, Oracle, and Ceefax are telephone based video text systems currently in use in Great Britain. Rather than being considered as competitors, they should be viewed as complementary media with separate functions based on their differences. All use home television sets to receive information in print, and all broadcast on spare TV lines in the vertical interval, or space between the pictures. Prestel is an interactive system in which viewers can send messages to a computer and interact with the system. After viewing a table of contents, viewers can request specific pages from the computer. Prestel has the capacity to carry hundreds of pages dedicated to special information needs of consumers, such as a specific sector of industry. Oracle and Ceefax are teletext systems sponsored by ITV and BBC, respectively, in which the viewer can only interact with the receiver and must wait for the page wanted to come around on the cycle. A hundred page cycle now takes about 22 seconds; improvement of access time is planned. Teletext is now a broadcast service with no charge that provides entertainment pages and television related information such as serial updates, film reviews, and program listings. Future possibilities for the teletext systems include supporting television with advertising, subtitling, regionalization of services, and increased telesoftware programs. (MKM)

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Teletext - Prestel's Big Brother

A Background Paper

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Contribution to Plenary Session

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Members of IIC who receive their journal Intermedia will no doubt have read the excellent issue of last May which deals in some depth with viewdata, or 'interactive videotex' systems, but with only glancing references to teletext.

In his editorial the editor justifies this unilateral approach on the grounds that the interactive system is 'more substantial' and so I have called this short paper 'Prestel's Big Brother' in order to redress the balance a bit. Teletext has been providing a public service for very nearly five years now and I don't think its unfair to say that Prestel has yet to prove its substance in the marketplace.

But first, a bit of history. At functions like this where we both appear, BBC and ITV are inclined to argue about who got there first. I shall content myself with stating chauvinistically that, while the BBC were the first to announce the development of Ceefax, IBA were the first to demonstrate their ORACLE system, in the early spring of 1973. By May of 1974 the two broadcasters and the TV set manufacturers had got together to publish a unified specification for teletext and in September of that year the Home Office granted a two year licence for an experimental public service.

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The specification was revised in September 1976 to take account of some further developments in the editorial capability of the system and that is the specification to which the broadcasters and manufacturers are now working.

The BBC started public transmission of Ceefax within days of the licence being granted in 1974 and ORACLE, which had been developed by engineers of the IBA, was then handed over to the ITV companies, under their joint association, the ITCA. The federal nature of ITV demanded a somewhat different configuration for ORACLE from that installed at the more monolithic BBC and so by July of 1975 ORACLE was on the air with its own service. And there, despite the odd industrial hiccups, the two services have remained. Both broadcasters have now upgraded their equipment and software to make their systems more reliable and more flexible and ORACLE at least has taken the decision that, since for a public service reliability is a prime consideration, we must install backup computers and insertion hardware. This process should be completed by the new year and we expect then that technical breakdowns will at worst last no longer than it takes to throw a switch and bring the backup computer into operation.

I shall not take up time describing the services that ORACLE and Ceefax are currently providing. Those of you who weren't familiar with them before this conference will have ample

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opportunity to question the receivers outside this room over the next day or two. But since this session is described as 'The Experience of Prestel', it would be worth looking at some of the ways in which teletext relates to its brother service.

The first and most obvious difference is that a viewer questioning a teletext receiver can only interact with that receiver. When you press the buttons on your teletext keypad, you are talking to the set. When you press the buttons on your Prestel set, you are interacting directly with the computer. The broadcaster has therefore to transmit a number of pages in a continuous cycle and the viewer simply instructs his decoder to wait until the page he wants comes round, to decode and display it and to store it for as long as he needs to read it. In fact each page takes a bit less than a quarter of a second to transmit and a hundred page cycle gives you a worst-case waiting time of about 22 seconds. We can increase the amount of information available to the viewer, either by making him wait longer for each page, or by using sub-pages which are changed by the broadcaster's computer after a predetermined reading time. Currently both broadcasters have around three or four hundred pages in their systems. You get there a bit faster on Ceefax, but you may have to change channel to get the information you want.

So in terms of speed and number of pages available, Prestel obviously has the edge on teletext. But the fact that teletext

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is a broadcast service means that there's no way you can be made to pay for requesting a page. And that must be a consideration in trying to assess the domestic utility of these systems. Clearly Prestel, with its enormous potential data base, will be the more valuable service for the specialised business user, since it can carry hundreds, even thousands, of pages dedicated to one small sector of industry and, in this context, the cost of those pages to the viewer is inconsiderable.

Teletext is not primarily concerned with the business user at his place of work, though both broadcasters supply, as part of their services, a number of pages for the businessman at home. Their main concern is to supply information that will be of value to men, women and children sitting down in front of their television sets. Actually, the idea of these media as vehicles for pure information is a bit misleading, since both Prestel and teletext have found that entertaining pages of games, jokes and puzzles are liked by domestic viewers and will continue to be a fairly significant part of their services. I can recommend an invigorating game of noughts and crosses on Prestel and there are some quite apalling children's jokes on ORACLE. The BBC held their more dedicated viewers for four hours a few weeks ago, while two players played a game of chess via Ceefax and the telephone.

But to return to those people sitting down in front of their TV sets; for they are, I think, the key to an important function

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of teletext and one where it will meet a need that Prestel is unlikely to satisfy. Besides being an information medium in its own right, teletext is part of the television service. It comes from the TV set and will be used, in large part, when the family is sitting down to watch programmes. Its ability, therefore, to promote and support television programmes will be an important part of its use. Both ORACLE and Ceefax devote a number of pages to this cause and, speaking for ORACLE at least, many more will be made available, as producers become aware of the use they can make of the service. Apart from programme listings for all TV services in all the regions, ORACLE carries a 'The Story So Far' feature which enables you to catch up with the previous episode of a serial you may have missed. There are support pages for series like Granada's 'Camera', which list books or exhibitions which may interest the viewer. There are reviews of every film shown on ITV and there are pages promoting forthcoming attractions. When I was visited, some time ago, by a senior executive of West Germany's ARD, he told me that one of the main reasons the German broadcasters were anxious to have a teletext service was that they did not own their programme journal and needed a medium to promote their programmes.

The future will see a considerable extension of this television related information, of which I will mention just two. Subtitling television programmes for the deaf is currently getting a great deal of attention from broadcasters, both of whom are looking

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energetically into ways of providing teletext subtitles for programmes economically and rapidly. The problem of subtitling a live programme, such as a news bulletin, more or less simultaneously is being tackled by way of Palantype, the short-hand machine once used in law court reporting. Dr. Newell at Southampton University, which is being sponsored by ITV to research this field, has already done remarkable work in producing subtitles from a Palantype that are pretty near to perfect English. Similar research is also being done by the BBC, who are basing their approach on work done at Leicester Polytechnic.

Another area where teletext supports television applies only to ORACLE, since it relates to advertising. Clearly ORACLE is a valid advertising medium and once there is a large enough market, we shall hope to be allowed to include advertisements in the service. They may be full pages of jobs, properties or holidays for sale, or they may be one or two line slogans at the foot of a page of information. They can also be used to support television commercials. A TV commercial for a new car model, for instance, could carry a direction to an ORACLE page, where the dealers in your region can be listed. And that in turn could direct you to a page of Prestel, where you can register your request for a test drive.

And that brings me neatly back to comparison of the two systems and the interactive capability of Prestel. In that last example I was projecting forward to a time when the viewer will

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scarcely be conscious of whether his receiver is in the teletext or the viewdata mode and where he may use teletext because the information is available on it and free and move into Prestel when he needs to talk back to, for instance, the advertiser, or indeed the broadcaster, as Prestel Information Provider. But the development on teletext of Telesoftware will, in the future, give viewers a degree of interactivity that will enormously expand its range.

Briefly, telesoftware means sending pages of information that is in fact computer software and which can be used to programme a microprocessor in the receiver. The TV set now becomes a home computer and, by selecting appropriate telesoftware programmes, can be used for an almost endless variety of purposes. It will be used to caluculate tax or insurance rates, to play games, or to select pages or parts of a page from lists of, for instance, second hand car ads. New applications are being suggested almost daily and its use in education is one of the more exciting ones. A government sponsored research programme in this area is now in preparation by Brighton Polytechnic, supported by ITV and BBC.

Its still too early for me, at least, to predict the ultimate usefulness of telesoftware, but I'm pretty sure it will become a cornerstone in the teletext structure. Our most pressing need at present is to produce a common specification on which both broadcasters and Prestel can build. It must be sensible

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to have all telesoftware systems speaking to a common terminal in a common computer language; this is one area where cooperation will benefit everybody.

I've mentioned three areas into which one teletext operator will move in the near future; telesoftware, advertising and subtitling, as part of its TV related service. Two more will suffice for this brief survey. They are the regionalisation of the service and improvement of the access time - the time it takes for a page to be displayed on your screen. Teletext is currently broadcast in two of the spare TV lines in the vertical interval - that is, the space between the pictures. Teletext decoders, however, are constructed to make use of up to eight lines and we are now doing tests to check the feasibility of using more of these lines. The problem is with some of the older 625 line sets, where the flyback time is somewhat slower than it is with modern receivers. We need to be sure that using extra lines doesn't cause picture interference on the older sets. The indications are that we shall be able to use at least two, possibly four extra lines immediately. As these slower sets become obsolete, the remaining lines will become available. Six lines for sending teletext would mean that a 100 page cycle could be accessed in around seven seconds, or 300 pages in twenty-two seconds.

In ORACLE's case we would hope to dedicate two of these lines to the regional ITV Companies, who would each be able to insert a hundred or more pages of purely local information.

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Pages carrying news, sport, business news and national features will continue to be generated in London and transmitted on the remaining lines nationally, just as they are now, but faster and more of them.

I have always viewed teletext as a small medium of textual information. It's not expensive to operate and costs almost nothing to distribute, for the transmitters are already there. We talk about improvements to the sophistication of the system, like enhanced graphics (a benefit that would come from telesoftware). But with regional services we will be fulfilling the promise of teletext as a domestic medium. Advertisements of sale bargains in your local store, of flats near where you live, or news of local council business; these are the bread and butter of this medium and I suspect that many of them may not be attractive to Information Providers to Prestel.

I may be giving the impression that I view teletext and Prestel as competitors. If that is so, I must retract at once, for the two systems are, in all important respects complimentary. Prestel needs teletext, to cope with the large demands for one category of information which would 'jam the switchboard' into the Prestel computer. Think of football results on a Saturday evening, or a sudden crisis in national news. But I submit that teletext needs Prestel too. We can give the average viewer access to information that he needs fairly frequently. But, however much we improve the size of our data bases or the access time of

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the systems, we cannot cope with the viewer who wants specialist information, nor can we fully handle the needs of the business community. The viewer will always turn to teletext for information which is on teletext and which is free. He will turn to Prestel for more rarified material and to browse through longs lists of information. That seems to me to be a proper use for the telly in the corner; to entertain and to inform, through television at one level and through these two complimentary media at the other.

The question we have yet to answer is whether information is a product the public are prepared to buy. After a slow start, it now looks as if the public will accept teletext. Whether it will similarly take Prestel to its heart remains to be seen. I wish them every success.

20th August, 1979.